CLAIMS

1.   A method of controlling data packet flows in a network device by manipulating data packets according to an actual manipulation rate, comprising:

        receiving data packets;

        amongst the received data packets identifying data packets that are marked with a pattern according to a congestion notification scheme;

        determining a pattern rate of data packets comprising the pattern; and

        determining the actual manipulation rate dependent on the pattern rate.

2.   A method according to claim 1, comprising

        determining a first manipulation rate representing an actual rate of data packets manipulated on a route from transmitters of the data packets to respective receivers via the network device;

        determining a second manipulation rate representing an actual rate of data packets manipulated on a route from the transmitters to the network device;

        determining a third manipulation rate representing an actual rate of data packets manipulated on a route from the network device to the receivers; and

        determining the actual manipulation rate dependent on the first manipulation rate, the second manipulation rate and the third manipulation rate;

        wherein at least one of the first, second or third manipulation rate is based on a pattern rate.

3.   A method according to claim 1, comprising

        determining a congestion experienced pattern rate of data packets comprising a congestion experienced pattern indicating a congestion;

        determining the second manipulation rate dependent on the congestion experienced pattern rate.

4.   A method according to claim 3, wherein the second manipulation rate is represented by the congestion experienced pattern rate.

5.   A method according to claim 1 comprising
        determining a congestion reaction pattern rate of data packets comprising a congestion reaction pattern indicating a reaction that was taken upon a congestion;
        determining a fourth manipulation rate representing a previous rate of data packets manipulated on a route from transmitters of the data packets to respective receivers via the network device, the fourth manipulation rate being dependent on the congestion reaction pattern rate.
        determining the first manipulation rate dependent on the fourth manipulation rate.

6.   A method according to claim 1, comprising
determining the first manipulation rate dependent on the load of the network device.

7.   A method according to claim 8, comprising
        determining an arrival rate of data packets representing the rate of data packets arriving at the network device;
        wherein the load of the network device is dependent on the arrival rate.

8.   A method according to claim 1, comprising determining the first manipulation rate dependent on a given link rate, the link rate specifying an optimum rate of data packets to be handled by the network device.

9.   A method according to claim 1, wherein the third manipulation rate is determined by a fifth manipulation rate; the fifth manipulation rate representing a rate of data packets previously dropped on a route from the network device to the receivers.

10.   A method according to claim 9,

wherein the fifth manipulation rate is determined by the fourth manipulation rate; a previous manipulation rate representing data packets being previously manipulated by the network device, and a sixth manipulation rate representing a previous rate of data packets dropped on a route from the transmitters to the network device.

11. A method according to claim 10, wherein the previous manipulation rate and the sixth manipulation rate are stored in the network device.

12. A method of controlling data packet flows in a network device by manipulating data packets according to an actual manipulation rate, comprising:

determining a first manipulation rate representing an actual rate of data packets manipulated on a route from transmitters of the data packets to respective receivers via the network device;

determining a second manipulation rate representing an actual rate of data packets manipulated on a route from the transmitters to the network device;

determining a third manipulation rate representing an actual rate of data packets manipulated on a route from the network device to the receivers; and

determining the actual manipulation rate dependent on the first manipulation rate, the second manipulation rate and the third manipulation rate.

13. A method according to claim 12, comprising:

amongst received data packets identifying data packets that are marked with a pattern according to a congestion notification scheme;

determining a pattern rate of data packets comprising the pattern; and

determining at least one of the first, second or third manipulation rate dependent on a pattern rate.

14. A network device comprising a control unit configured to perform a method of controlling a database flows by manipulating data packets according to an actual manipulation rate, said method comprising:

receiving data packets;

amongst the received data packets identifying data packets that are marked with a pattern according to a congestion notification scheme;

determining a pattern rate of data packets comprising the pattern; and

determining the actual manipulation rate dependent on the pattern rate.

15.   A network device as recited in claim 14, wherein said device is a router for forwarding data packets.

16.   A program storage device readable by a digital processing apparatus and having a program of instructions which are tangibly embodied on the storage device, and which are executable by the processing apparatus to perform a method of controlling data packet flows by manipulating data packets according to an actual manipulation rate, said method comprising receiving data packets;

amongst the received data packets identifying data packets that are marked with a pattern according to a congestion notification scheme;

determining a pattern rate of data packets comprising the pattern; and

determining the actual manipulation rate dependent on the pattern rate.